CLAIMS

What is Claimed is:

1. A mobile services network comprising:
    a mobile electronic device;
    a management server;
    an update package repository; and
    a generator with nodes preprocessor.

2. The network according to claim 1 wherein the generator with nodes preprocessor generates update packages by comparing an old version and a new version of firmware.

3. The network according to claim 2 wherein the update packages are populated into the update package repository.

4. The network according to claim 2 wherein the generated update packages incorporate filter information.

5. The network according to claim 2 wherein the generated update packages incorporate node information.

6. The network according to claim 1 wherein the management server and the update package repository are communicatively coupled.

7. The network according to claim 1 wherein the generator with nodes preprocessor and the update package repository are communicatively coupled.

8. The network according to claim 1 wherein the generator with nodes preprocessor is located at a remote location from the update package repository.

9. The network according to claim 1 wherein the mobile handset comprises:
    a non-volatile memory;

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a random access memory; and

security services.

10. The network according to claim 9 wherein the non-volatile memory comprises:

an update agent;

a firmware and real-time operating system;

a download agent; and

a boot initialization.

11. The network according to claim 10 wherein the non-volatile memory further comprises an operating system layer.

12. The network according to claim 10 wherein the non-volatile memory further comprises an end-user-related data and content unit.

13. The network according to claim 10 wherein the mobile electronic device executes an update process according to the following:

downloading an update package from the update package repository;

rebooting;

executing the boot initialization;

determining whether an update process is needed; and

invoking the update agent.

14. The network according to claim 13 wherein the mobile electronic device determines the need for an update process based on status information.

15. The network according to claim 13 wherein the mobile electronic device invokes the update agent to execute the update process if it is determined an update process is needed.

16. A method for generating an update package using an old image and a new image of a firmware in a mobile services network, the method comprising:

converting symbols in the new and old images of the firmware into distance information;

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determining a list of nodes in the old and new images of the firmware;

generating filter information;

generating the update package; and

outputting the generated update package.

17. The method according to claim 16 wherein the distance information is determined by locating the symbols of the old image and the new image.

18. The method according to claim 16 wherein the determining comprises:

determining addresses of symbols in the old image;

determining addresses of symbols in the new image;

comparing the differences in the addresses of the symbols in the old image and the new image;

predicting the differences in addresses of subsequent symbols;

determining the symbols for which offsets cannot be predicted; and

using the unpredictable symbols as additional node symbols.

19. The method according to claim 16 wherein a pre-predict phase is performed to generate filter information, and wherein the pre-predict phase comprises:

identifying instructions using instruction prediction;

fixing address locations and producing filter information; and

fixing data and producing filter information using block hunting.

20. The method according to claim 16 wherein the filter information comprises node location and address range information where prediction was successful.

21. The method according to claim 16 wherein a pre-predict phase is performed to generate filter information, and wherein the pre-predict phase is followed by a predict phase, wherein the predict phase comprises:

performing instruction prediction utilizing the generated filter information; and

executing block hunting utilizing the generated filter information.

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22. A method for generating an update package using an old image and a new image of a firmware in a mobile services network, the method comprising the steps of:

converting symbols in the new and old images of the firmware into distance information;

determining a list of nodes in the old and new images of the firmware;

generating information for a first filter;

creating a partially modified old image of the firmware utilizing the first filter;

generating information for a second filter;

creating a modified old image of the firmware utilizing the second filter and the partially modified old image of the firmware;

generating the update package; and

outputting the generated update package.